

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
29 January 2009 (29.01.2009)

PCT

(10) International Publication Number
WO 2009/014237 A3

(51) International Patent Classification:

A61K 8/365 (2006.01) A61Q 5/06 (2006.01)
A61K 8/86 (2006.01) C08G 77/452 (2006.01)
A61K 8/898 (2006.01)

Research Laboratories, 1-3, Bunka 2-chome, Sumida-ku, Tokyo, 1318501 (JP).

(21) International Application Number:

PCT/JP2008/063474

(22) International Filing Date: 18 July 2008 (18.07.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

2007-190244 20 July 2007 (20.07.2007) JP
2007-190245 20 July 2007 (20.07.2007) JP
2007-316589 7 December 2007 (07.12.2007) JP

(74) Agent: THE PATENT CORPORATE BODY ARUGA
PATENT OFFICE; Kyodo Bldg., 3-6, Nihonbashiningyo-
cho 1-chome, Chuo-ku, Tokyo, 1030013 (JP).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA,
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE,
EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID,
IL, IN, IS, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK,
LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW,
MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM,
ZW.(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL,
NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG,
CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).(71) Applicant (for all designated States except US): KAO
CORPORATION [JP/JP]; 14-10, Nihonbashikayabacho
1-chome, Chuo-ku, Tokyo, 1038210 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): FUKUHARA,
Kazuhisa [JP/JP]; c/o Kao Corporation Research Labora-
tories, 1-3, Bunka 2-chome, Sumida-ku, Tokyo, 1318501
(JP). KODATE, Takashi [JP/JP]; c/o Kao Corporation
Research Laboratories, 1334, Minato, Wakayama-shi,
Wakayama, 6408580 (JP). KITADA, Kayoko [JP/JP];
c/o Kao Corporation Research Laboratories, 1-3, Bunka
2-chome, Sumida-ku, Tokyo, 1318501 (JP). UHEYAMA,
Kenichi [JP/JP]; c/o Kao Corporation Research Labora-
tories, 1-3, Bunka 2-chome, Sumida-ku, Tokyo, 1318501
(JP). EHARA, Masayoshi [JP/JP]; c/o Kao Corporation

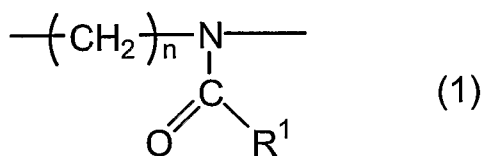
Published:

— with international search report
— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:

26 March 2009

(54) Title: ORGANOPOLYSILOXANE

(57) Abstract: There is provided an organopolysiloxane which is
excellent in extensibility as well as solubility and dispersibility in
water and lower alcohols. There is provided an organopolysilox-
ane with a poly(N-acylalkyleneimine) segment having a repeating
unit represented by the following general formula (1): wherein R¹
represents a hydrogen atom or an alkyl group, an aralkyl group, or
an aryl group each having 1 to 22 carbon atoms, and n is 2 or 3,
wherein the segment is bound to each of at least two silicon atoms
of an organopolysiloxane segment as a main chain via an alkylenegroup containing a hetero atom, and wherein the number-average molecular weight of the segment is 800 to 1600, the mass ratio of
the organopolysiloxane segment as a main chain and the poly(N-acylalkyleneimine) segment is 65/35 to 82/18, and the weight-av-
erage molecular weight of the organopolysiloxane segment as a main chain is 10,000 to 100,000.

WO 2009/014237 A3

INTERNATIONAL SEARCH REPORT

International application No

PCT/JP2008/063474

A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K8/365 A61K8/86 A61K8/898 A61Q5/06 C08G77/452

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A61K A61Q C08G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 04 085334 A (KAO CORP) 18 March 1992 (1992-03-18) examples 1,5 -----	1
X	JP 02 276824 A (KAO CORP) 13 November 1990 (1990-11-13) examples 3,8 -----	1
X	JP 10 095705 A (KAO CORP) 14 April 1998 (1998-04-14) paragraph [0099] -----	1
X	JP 09 202714 A (KAO CORP) 5 August 1997 (1997-08-05) paragraph [0119] ----- -/--	1

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

3 November 2008

Date of mailing of the international search report

05/02/2009

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040,
Fax: (+31-70) 340-3016

Authorized officer

Hein, Friedrich

INTERNATIONAL SEARCH REPORT

International application No

PCT/JP2008/063474

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 761 202 A2 (KAO CORP [JP]) 12 March 1997 (1997-03-12) page 14, lines 1-11 -----	1
X	JP 03 287509 A (KAO CORP) 18 December 1991 (1991-12-18) synthesis example 2 -----	1
A	JP 10 306163 A (KAO CORP) 17 November 1998 (1998-11-17) abstract paragraph [0043]; table 1 -----	1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2008/063474

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

see annex

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- ☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claim: 1

Organopolysiloxane

2. claims: 2-10

Hair cosmetic comprising the organopolysiloxane

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/JP2008/063474

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
JP 4085334	A	18-03-1992	JP	2716850 B2	18-02-1998
JP 2276824	A	13-11-1990	JP	2716831 B2	18-02-1998
JP 10095705	A	14-04-1998	JP	3118192 B2	18-12-2000
JP 9202714	A	05-08-1997	JP	3442944 B2	02-09-2003
EP 0761202	A2	12-03-1997	CN	1150539 A	28-05-1997
			DE	69628100 D1	18-06-2003
			DE	69628100 T2	19-02-2004
			TW	504387 B	01-10-2002
			US	6440429 B1	27-08-2002
JP 3287509	A	18-12-1991	JP	2843101 B2	06-01-1999
JP 10306163	A	17-11-1998	NONE		